

FINAL REPORT

ON

**Learning Achievement of Grade III To V
Children in Rural Primary Schools**

**Bureau of Curriculum Development &
Extension Services NWFP, Abbotabad**

APRIL 2000

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Preface

The research study on Enhancing Literacy and Learning Achievement of Children in rural primary schools was Carried out with the financial assistance of UNESCO Islamabad.

The study was undertaken in a phased program. In the 1st Phase, learners achievement was assessed and learning weaknesses were diagnosed. In the 2nd Phase, teacher training material for remedial teaching was prepared and the teachers were trained accordingly during the workshop. Consequently teachers carried out remedial teaching in schools. A comparative assessment of learning achievement was made for ascertaining improvement in learning of the Children as a result of remedial teaching.

It is encouraging to note that the research findings have indicated satisfactory improvement in learning achievement and the hypothesis for introducing remedial teaching method for the training of teaches is proved true.

I am thankful to UNESCO and Ministry of Education, Islamabad for providing necessary funds to carry out the study. Mr Aurangzab Rehman, AEA, Ministry of Education, for their support and guidance in the study.

The research team members worked with full devotion and deserve special appreciation for this hard work.

Sardar Muhammad Ayub
Director

Introduction

Education aims at developing potential of human beings and enabling them to meet the challenges of life. The education is expected to add to the knowledge and information of individuals (cognitive domain), inculcating attitude to conform to the socio-cultural norms (affective domain) and developing skills necessary for living an independent, self reliant and productive life in the society (psychomotor). The quality of education is therefore considered most important in today's world, particularly in developing countries like Pakistan, where problems of education are multiple and complex.

Various research studies have been carried out for identifying strengths and weaknesses of the existing teaching-learning situation. A research study conducted by the National Institute of Psychology revealed that one fourth of the primary school graduates were able to accomplish the learning tasks corresponding to their grades. The Federal Ministry of Education and Provincial Bureaus of curriculum have been taking various steps to improve the quality of learning achievements in schools. A number of factors can be attributed to low level of learning achievements. There is an earnest need that both the supporting and impeding factors are identified and focussed for corrective measures.

A Pilot project on enhancing literacy and learning achievement of children in rural primary schools was carried out in four steps.

- Step – I Baseline survey**
- Step – II Development of remedial teacher training material**
- Step – III Remedial training of teachers and use of
the material in schools.**
- Step – IV Final report.**

Step – I : Baseline Survey

Objectives of the study

1. To assess the actual learning achievements of grades 3 to 5 students in the selected rural schools (surveying the present status of learning).
2. To identify the factors responsible for the low level of learning achievements among the students of primary level (identifying cases).
3. To evolve strategies / methodologies for the improvement of learning achievements among the students of rural primary schools and test their effectiveness (identifying remedial approaches for improving the situation).

Methodology and Procedure

Following procedure was adopted for initiating study in the light of above stated objectives:

1. Development of Research Instruments :

The following research instruments were developed for obtaining data:

(a) Learning achievement Tests from grades III-V in the following subjects:

- (i) Urdu
- (ii) Social Studies
- (iii) Mathematics
- (iv) Science

(b) Questionnaires for obtaining opinion about different aspects of teaching learning process prevailing in the rural primary schools.

- (i) Questionnaire for Students
- (ii) Questionnaire for Teachers
- (iii) Questionnaire for Head Teachers
- (iv) Questionnaire for Parents
- (v) Questionnaire for Learning Co-ordinators

2. Selection of Sample

- (a) Schools: 10 male and 10 female schools were selected.
- (b) Students : 8 boys and 8 girls from each school were selected on stratified sampling.
- (c) Teachers : 30 male and 30 female teachers were selected.
- (d) Parents : 46 male and 49 female parents were selected.
- (e) Head teachers: One head teacher of each school was taken in to the study (20 head teachers)
- (f) L.C. : One male and one female learning co-ordinator were taken into study as they were the only available ones in the area.
- (g) Students : One student from each class of all the schools in the sample was randomly selected for obtaining opinion.

Learning Objectives

The following subject wise class wise learning objectives were tested in the selected rural primary schools.

Mathematics

Class – III

1. Recognize read and write numbers up to 100000.
2. Be able to add any two 3 – and 4 – digit numbers.
3. Be able to subtract any 4 – digit numbers from a 5 – digit number.
4. Be able to multiply any two 2 – and 3 – digit numbers.
5. Multiplication tables up to 10.
6. Be familiar with the associative property of addition.

Class – IV

1. Be able to write and read numbers in words and digits up to 1 crore.
2. Know that 10 lac = 1 m, 10 m = 1 crore.
3. Be able to multiply any two numbers having 3 digits.
4. Understand the concept of odd and even numbers.
5. Be able to read and write Urdu numerals.
6. Understand the concept of fractions.
7. Understand the concept of equivalent fractions.
8. Be able to add any two common fractions.
9. Be able to subtract any two common fractions.
10. Be able to multiply any two mixed fractions.
11. Be able to divide any number by 2 – digit number.

Class – V

1. Be familiar with the system of Roman Numerals upto 20, and for 50, 100, 1000.
2. Understand what is meant by divisibility, factors, multiples, prime and composite numbers.
3. Be able to find the Highest common factor and the least common multiple of natural numbers.
4. Be able to reduce a common fraction to its simple form.
5. Be able to solve problems involving addition, subtraction, multiplication and division of common and decimal fractions.
6. Be able to add the common fractions by using the associative property.

SCIENCE

Class – III

1. Understand how different animals have coats suitable to their environment.
2. Identify and state the characteristics of insects.
3. Identify and state the characteristics of mammals.
4. Describe that plants need soil, water, air and light for growth.
5. Identify the characteristics of birds.
6. Observe and name different parts of most of the plants.

Class – IV

1. Identify and explain how plants and animals are useful.
2. Explain how plants and animals are interdependent.
3. Describe that plants and animals are living things.
4. Distinguish between living and non living things.
5. Describe how living thing are adapted to their environment.

Class – V

1. Describe that animals, come from pre-existing parents and grow to be like their parents.
2. Identify that various baby animals are protected by their parents.
3. Observe that various animals are hatched and some animals give birth to their young ones.
4. Observe that a seed contains a baby plant called an embryo.
5. Observe that most plants grow from seeds, some grow from bulbs and some from parts of stems and leaves.
6. Describe balanced diet and its components.
7. Identify ways in which the different crops are cultivated.
8. List some hygienic habits that contribute to healthy living.
9. Describe that matter is made up of atoms and molecules
10. Describe the importance and use of fertilizers.

Social Studies

Class – III

1. Information about the concerned district.
2. Information about the National Flag.
3. Irrigation system of the district.
4. Climate & Seasons of the district.
5. Minerals of the district.
6. Industry of the district.
7. Uses of animals and plants.
8. Location of the district.

Class – IV

1. Location of the province.
2. Basic information about the Province and its population.
3. Climate and Seasons of the Province.
4. Forests of the Provinces.

Class – V

1. History of Pakistan.
2. Location of Pakistan.
3. Relief features of Pakistan.
4. Climate of Pakistan.
5. Irrigation system of Pakistan.
6. Forests of Pakistan.
7. General information about Pakistan.
8. Crops of Pakistan.

Urdu

Classess III-V

1. **Listening**

1. Attentive listening
2. Responding
3. Reproducing

2. **Speaking**

1. Fluency
2. Pronunciation
3. Repeating

3. **Reading**

1. Recognizing alphabets
2. Speed
3. Recitation

4. **Writing**

1. Translating
2. Taking dictation
3. Punctuation

5. Reading Comprehension

1. Reading with understanding
2. Reading with generalization
3. Reading with creative writing

6. Composition Writing

1. Writing and describing experiences
2. Imaginative writing
3. Descriptive Writing

7. Vocabulary

1. Knowing names of the objects from the environment
2. Use of new words
3. Repeating learnt vocabulary

8. Applied Grammar

1. Recognition of parts of speech
2. Putting of words in sentences
3. Generative grammar

Findings of Base line Survey

Class wise/ Subject wise findings of the baseline survey are summarized as follows.

Mathematics

Class – III

- The students did poorly in the following assessment objectives.
 - (i) Recognize read and write numbers up to 100000.
 - (ii) Be able to add any two 3-and 4- digit numbers.
 - (iii) Be able to subtract any 4 – digit numbers from a 5 – digit number.
 - (iv) Be able to multiply any two 2 – and 3 – digit numbers.
 - (v) Be familiar with the associative property of addition.
- Students obtained a mean score of 30.77% on the test.
- Male students did better (mean score 33.15%) than female students (mean score 28.38%).

Class – IV

- The students did poorly in the following assessment objectives.
 - (i) Be able to subtract any two common fractions.
 - (ii) Understand the concept of fractions.
 - (iii) Be able to multiply any two mixed fractions.
 - (iv) Understand the concept of equivalent fractions.
 - (v) Be able to add any two common fractions.
 - (v) Be able to divide any number by 2 – digit number.
- The students obtained a mean score of 33.53% on the test.
- Male students did better (mean score 37.23%) than female students (29.85%).

Class – V

- The students did poorly in the following assessment objectives.
 - (i) Be familiar with the system of Roman numerals upto 20, and for 50, 100, 1000.
 - (ii) Be able to find the Highest common factor and the least common multiple of natural numbers.
 - (iii) Solve problems involving addition, subtraction, multiplication and division of common and decimal fractions.
 - (iv) Be able to add to common fractions by using the associative property.

- The students obtained a mean score of 26.18% on the test.
- Male students did better (mean score 32.39%) than female students (mean score 19.96%).

SCIENCE

Class - III

- The students did not perform well in the following assessment objectives.
 - (i) Understand how different animals have coats suitable to their environment.
 - (ii) Identify and state the characteristics of mammals.
 - (iii) Observe and name different parts of most of the plants.
- The mean score of the students on the test was 40.02%.
- Female students performed well (mean score 43.32%) than male students (36.72%).

Class – IV

- The achievement of the student was low in the following objectives.
 - (i) Distinguish between living and non living things.
 - (ii) Describe how living thing are adapted to their environment.
- The students obtained a mean score of 40.2% on the test.
- The female students did slightly better (mean score 40.97%) than male students (mean score 38.85).

Class – V

The students performed poorly in the following objectives.

- (i) Describe that animals come from pre-existing parents and grow to be like their parents.
- (ii) Observe that a seed contains a baby plant called an embryo.
- (iii) Describe balanced diet and its components.
- (iv) Identify ways in which different crops are cultivated.
- (v) List some hygienic habits that contribute to healthy living.
- (vi) Describe that matter is made up of atoms and molecules.
- (vii) Describe the importance and use of fertilizers.

The mean score of the students on the test was 29.84%.

Female students did slightly better (mean score 30.41%) than male students (mean score 29.27%).

Social Studies

Class - III

- The performance of the students was low in the following assessment objectives.
 - (i) Information about the concerned district.
 - (ii) Information about the National Flag.
 - (iii) Irrigation system of the district.
 - (iv) Climate and Seasons of the district.
 - (v) Minerals of the district.
 - (vi) Industry of the district.
 - (vii) Location of the district.
- Students obtained a mean score of 23.39%.
- Male (mean score 24.11%) and female (mean score 22.68%) students performed almost equally on the test.

Class – IV

- The students achieved low in the following objectives.
 - (i) Location of the province.
 - (ii) Forests of the Provinces.
- The mean score of students on the test was 40.15%.
- The male and female students performed almost equally on the test (mean score of male students 40% and mean score of female students 40.36%).

Class – V

- The achievement of the students was low in the following objectives.
 - (i) Forests of Pakistan.
 - (ii) General information about Pakistan.
 - (iii) The mean score of the students on the test was 45.72%
- Male students did better (mean score 46.74%) than female students (mean score 44.72%).

Urdu

Class - III

- The achievement of students was low in the following objectives.
 - (i) Speaking
 - (ii) Applied grammar.
- The mean score of the students on the test was 53.59%.
- The mean score of the male students was 56.61% and that of female students was 50.68%.

Class – IV

- The students did poorly in the following objectives.
 - (i) Writing
 - (ii) Reading comprehension.
 - (iii) Composition writing.
 - (iv) Vocabulary.
 - (v) Applied grammar.
- The mean score of the students on the test was 22.17%.
- The mean score of the female students was 22.43% and that of the male students was 21.91%.

Class – V

- The students did poorly in the following objectives.
 - (i) Writing
 - (ii) Reading Comprehension.
 - (iii) Composition writing.
 - (iv) Vocabulary.
 - (v) Applied grammar.
- The mean score of the students on the test was 22.65%.
- Female students did better (mean score 23.81%) than male students (mean score 21.5%).

Recommendations and suggestions

Main recommendations offered on the basis of the findings of baseline survey were:

1. A mechanism for remedial teaching may be evolved and introduced in the schools.
2. Remedial teacher training package based upon weak areas of the students may be developed for teachers and learning co-ordinators.
3. Remedial teachers training may be organized for the teachers and learning co-ordinators.
4. Supplementary Reading Material for learners may be provided in the schools. The reading material should conform to the need and development of the learners.
5. Learning co-ordinators may be equipped with modern trends of educational supervision. They may also be apprised of their job role in teaching learning process.
6. Head teachers may be oriented to their particular role in the schools.
7. Arrangements may be made for meeting physical needs such as :
 - (a) Wash rooms/toilets in the school compound.
 - (b) Electric ceiling fans in the class rooms.
 - (c) Furniture for teachers and learners.
 - (d) Mini library for schools.
 - (e) Supply of drinking water in the schools.
 - (f) Provide materials for co-curricular activities like games and sports, literacy meetings etc.

Step – II : Development of Remedial Teacher Training Material

- In the light of research findings of baseline survey, remedial teachers training material, covering those assessment objectives where learners showed poor learning achievement, was developed.
- The remedial material was developed for enrichment and support of teachers for remedial teaching.

Step – III : Remedial Training of Teachers

- A six day workshop was organized to train teachers in the use of remedial teaching package in schools.
- Pre and post test was given to the teachers during the training workshop to motivate them for active participation in the workshop and to find out the impact of training. Training workshop proved to be an effective activity and improved the quality of teaching of the teachers.
- Teachers taught the identified concepts to the children on the pattern of remedial teaching.

Step – IV : Final Report

On completion of remedial teaching in schools, learners were given learning achievement test and a comparative study of learning achievement was done. The purpose was to verify if there was any improvement in learners achievement through the new teaching method in which the teachers were trained.

Procedure and methodology

Final report of research study is based on comparative study of learning achievement of children (i.e.) learning achievement before and after the training of teachers. The following activities were undertaken.

1. Development of learning achievement tests.
2. Supervision of teaching learning process continuing on the basis of remedial teaching strategy.
3. Administration of Achievement Tests.
4. Consolidation and analysis of Data.
5. Writing of final reports.

This is the final report of the research study which may be read in line with the report of baseline survey and remedial training material.

Analysis and Reporting of Data

In the following pages is presented the comparison of achievement of learners on pre-training and post-training tests on assessment objectives where learners did poorly during baseline survey. Generally learners did better in the post- training tests than in the pre-training tests.

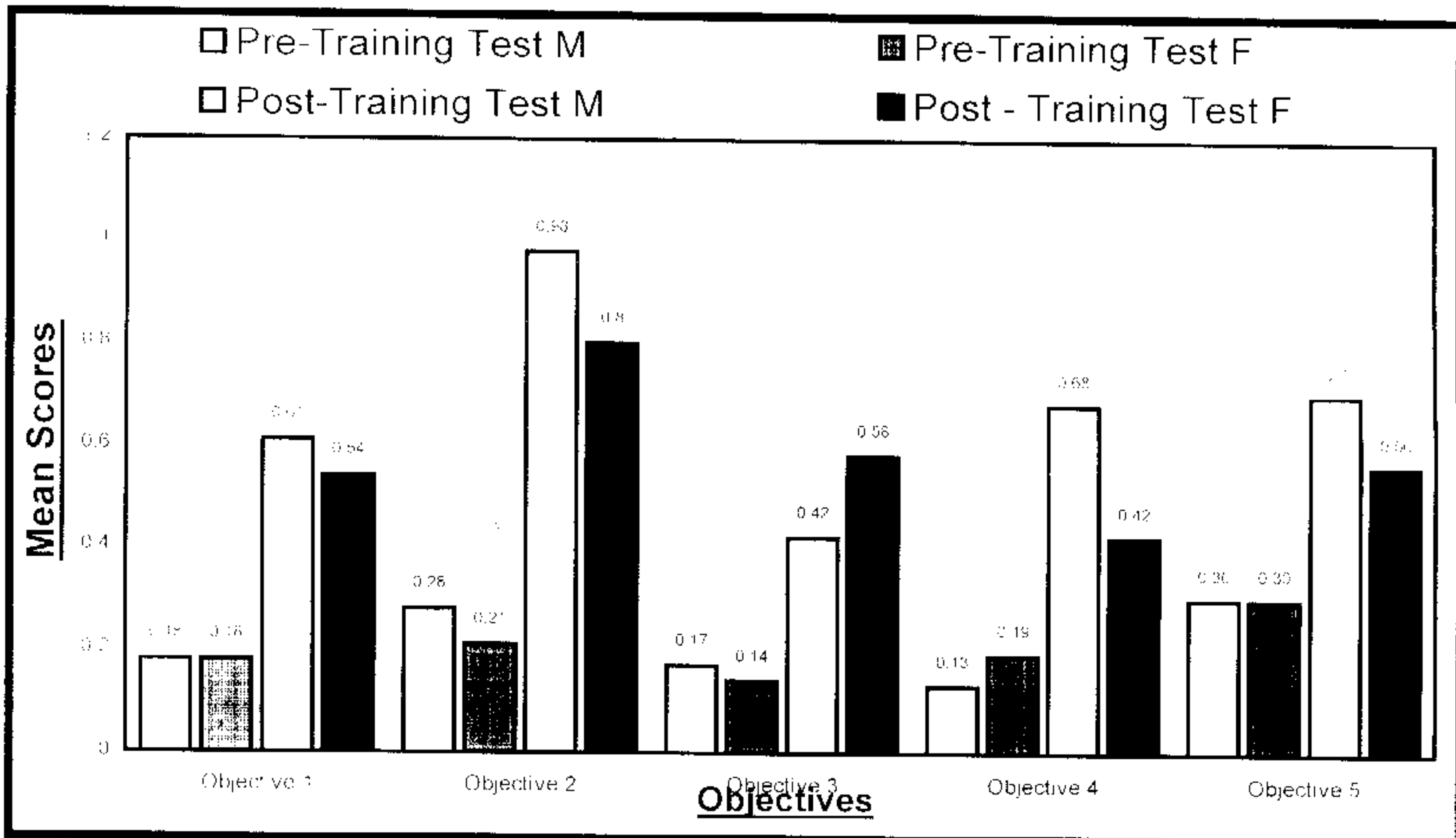
Tables showing objective wise percent scores for each subject for male and female tests are given in the coming pages. Their graphical representation is also shown.

Math

Class - III

Objective wise percent scores

Objective No.	Pre Training Test (Base line survey)		Post Training Test	
	M	F	M	F
1.	.18	.18	.61	.54
2.	.28	.21	.98	.80
3.	.17	.14	.42	.58
4.	.13	.19	.68	.42
5.	.30	.30	.70	.56
Mean	.21	.20	.68	.58

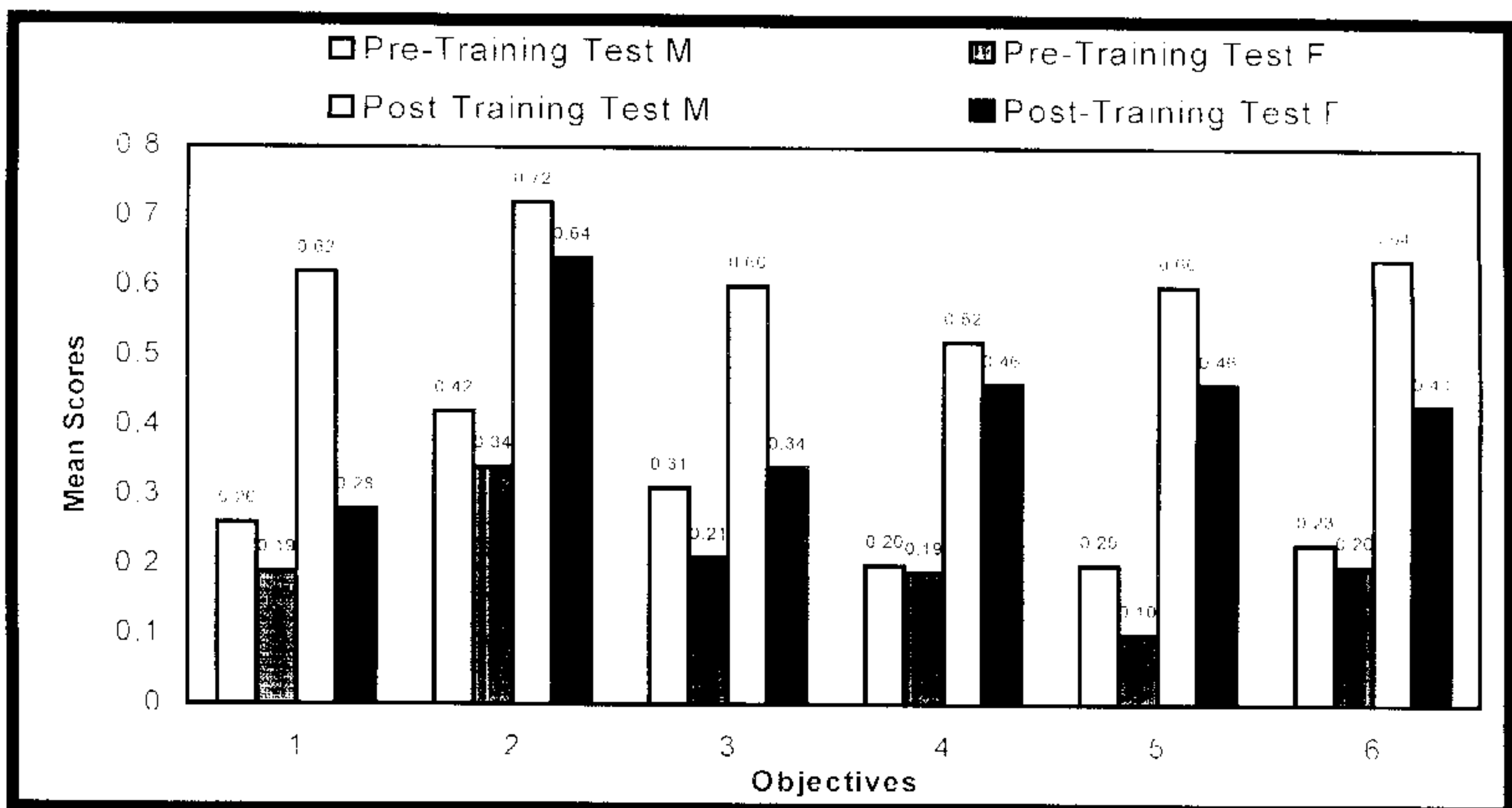


Math

Class – IV

Objective wise percent scores

Objective No.	Pre Training Test (Base line survey)		Post Training Test	
	M	F	M	F
	1.	.26	.19	.62
2.	.42	.34	.72	.64
3.	.31	.21	.60	.34
4.	.20	.19	.52	.46
5.	.20	.10	.60	.46
6.	.23	.20	.64	.43
Mean	.27	.21	.62	.44

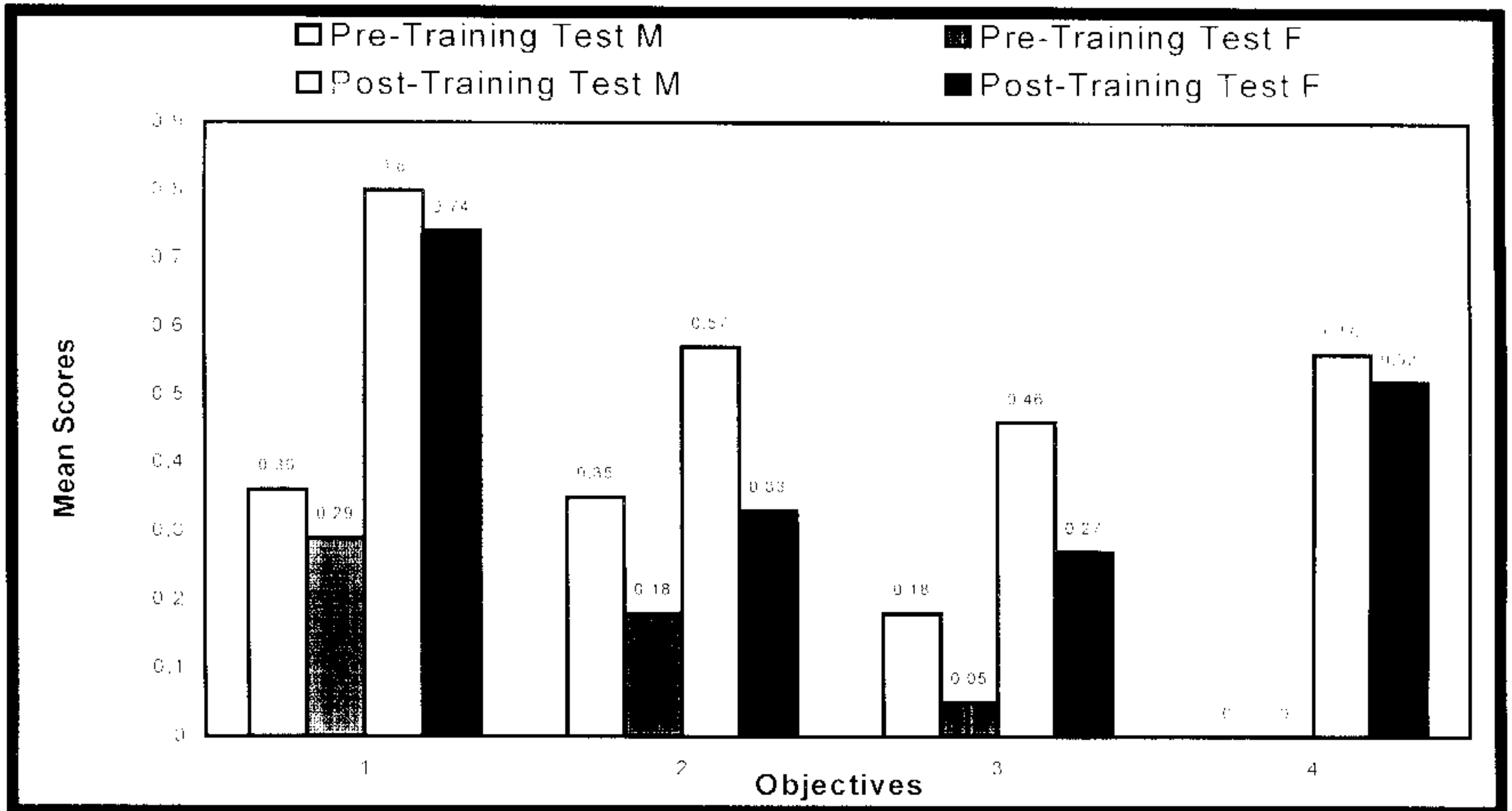


Math

Class – V

Objective wise percent scores

Objective No.	Pre Training Test (Base line survey)		Post Training Test	
	M	F	M	F
1.	.36	.29	.80	.74
2.	.35	.18	.57	.33
3.	.18	.05	.46	.27
4.	0	0	.56	.52
Mean	.22	.13	.60	.47

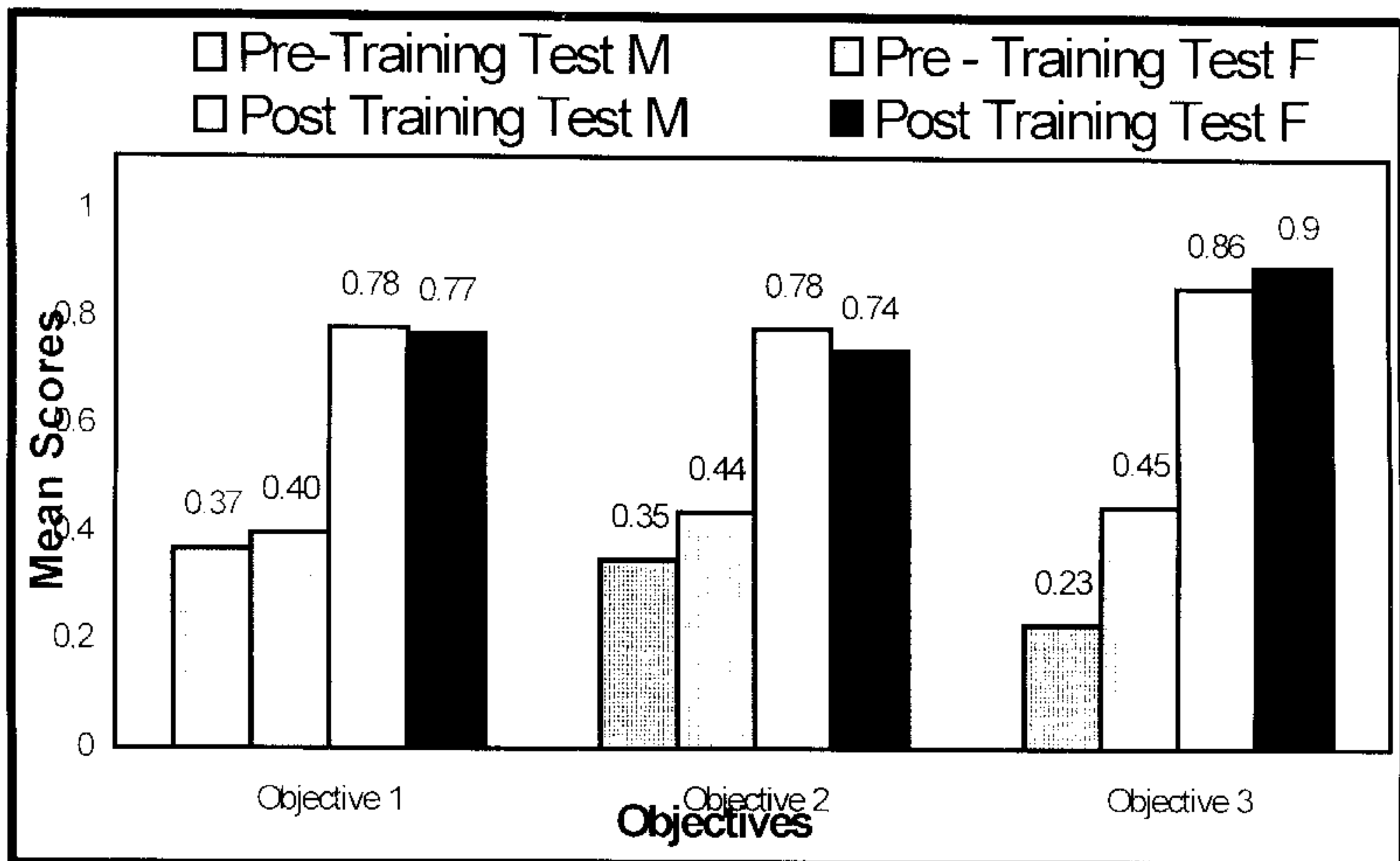


Science

Class - III

Objective wise percent scores

Objective No.	Pre Training Test (Base line survey)		Post Training Test	
	M	F	M	F
1.	.37	.40	.78	.77
2.	.35	.44	.78	.74
3.	.23	.45	.86	.90
Mean	.32	.43	.81	.80

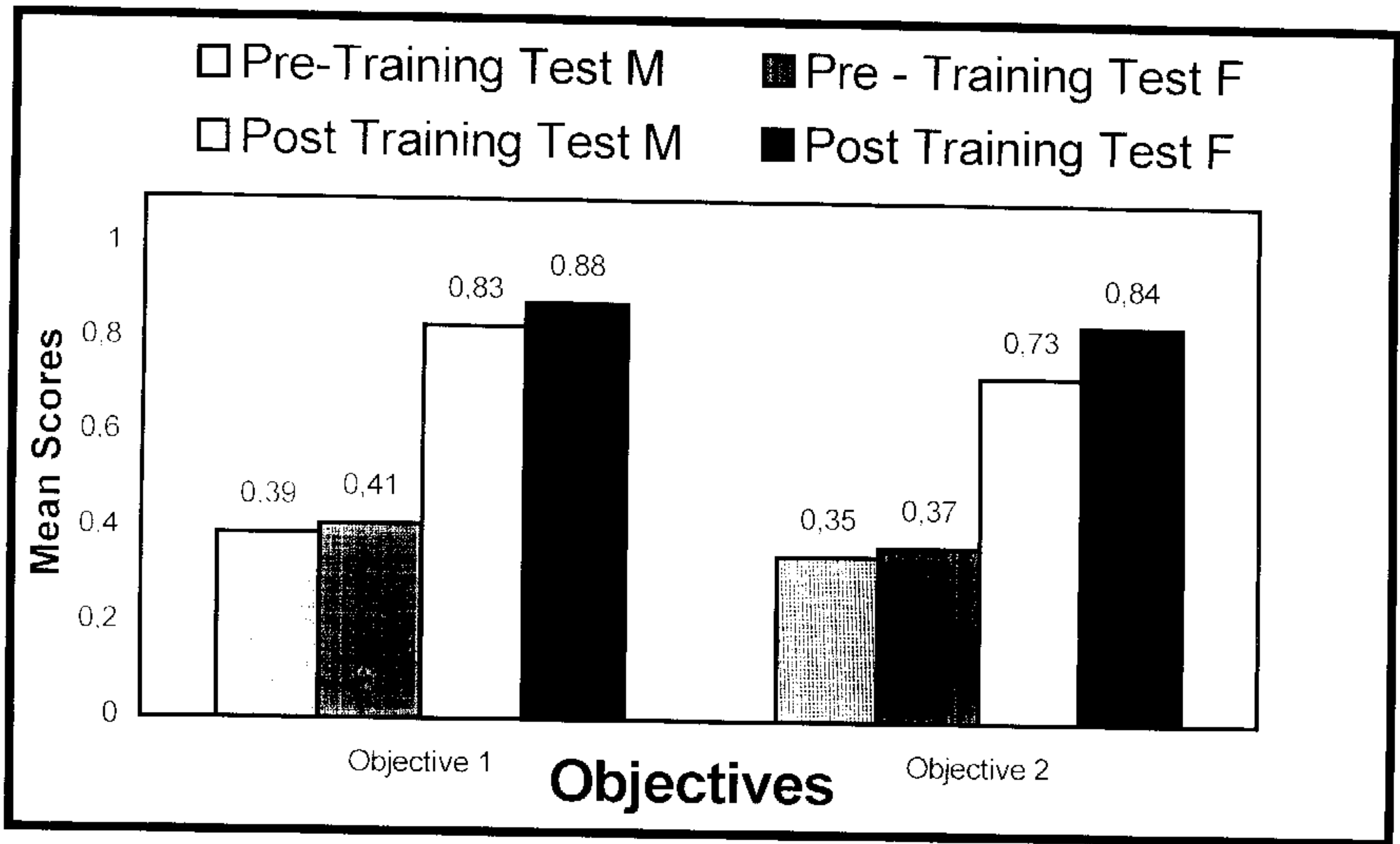


Science

Class - IV

Objective wise percent scores

Objective No.	Pre Training Test (Base line survey)		Post Training Test	
	M	F	M	F
1.	.39	.41	.83	.88
2.	.35	.37	.73	.84
Mean	.37	.39	.78	.86

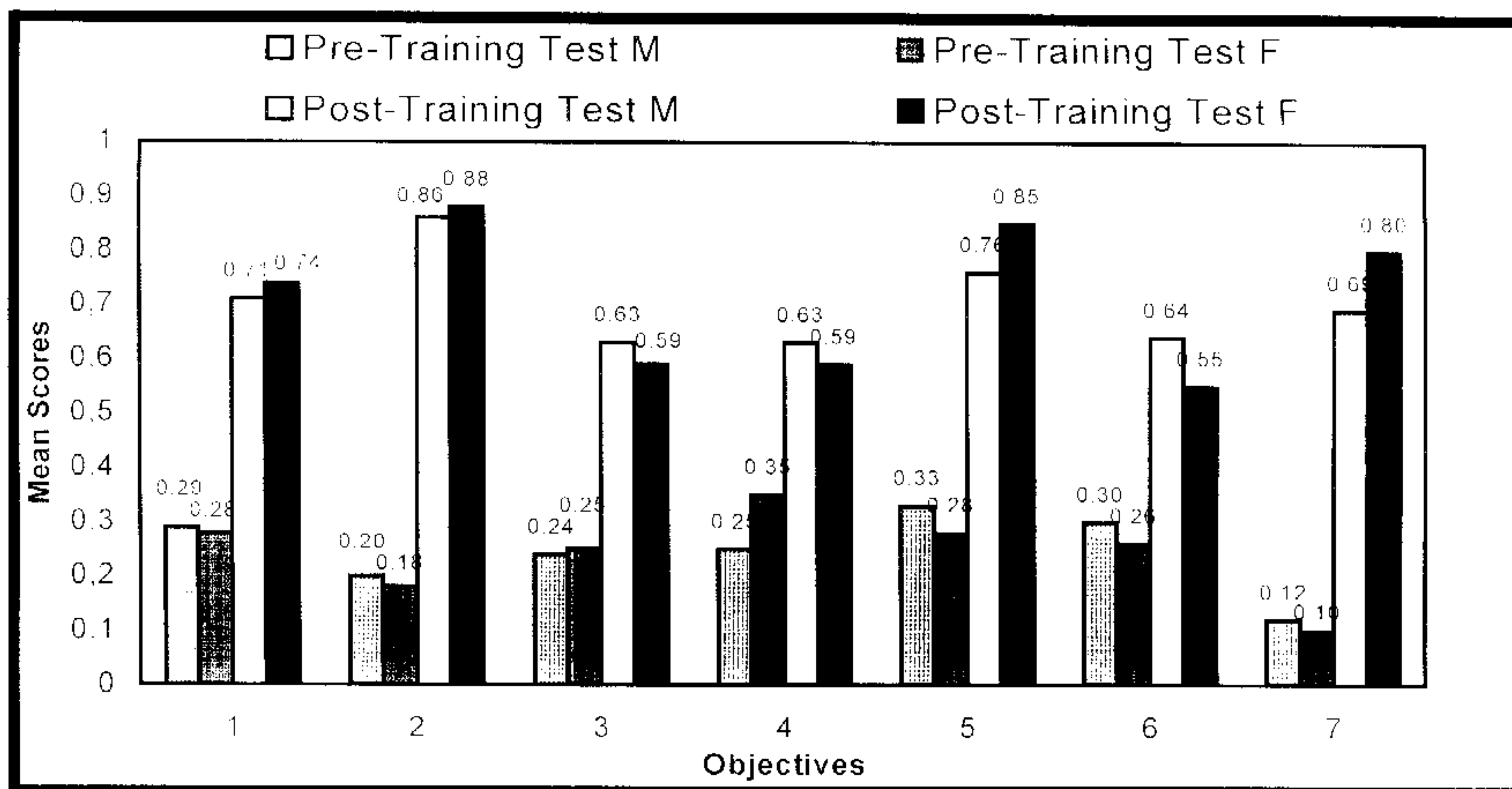


Science

Class - V

Objective wise percent scores

Objective No.	Pre Training Test (Base line survey)		Post Training Test	
	M	F	M	F
1.	.29	.28	.71	.74
2.	.20	.18	.86	.88
3.	.24	.25	.63	.59
4.	.25	.35	.63	.59
5.	.33	.28	.76	.85
6.	.30	.26	.64	.55
7.	.12	.10	.69	.80
Mean	.25	.24	.70	.71

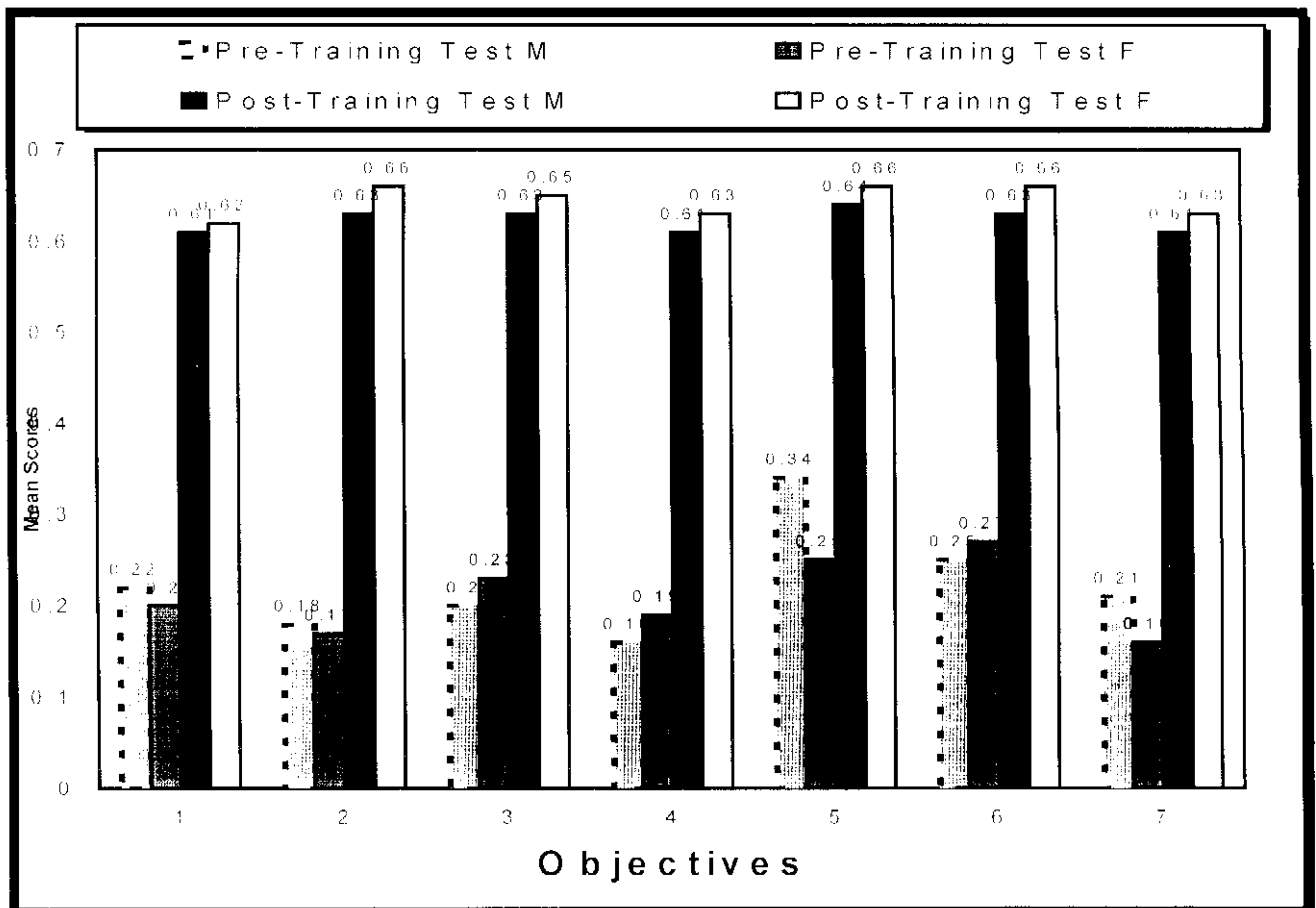


Social Studies

Class - III

Objective wise percent scores

Objective No.	Pre Training Test (Base line survey)		Post Training Test	
	M	F	M	F
1.	.22	.20	.61	.62
2.	.18	.17	.63	.66
3.	.20	.23	.63	.65
4.	.16	.19	.61	.63
5.	.34	.25	.64	.66
6.	.25	.27	.63	.66
7.	.21	.16	.61	.63
Mean	.22	.21	.62	.64



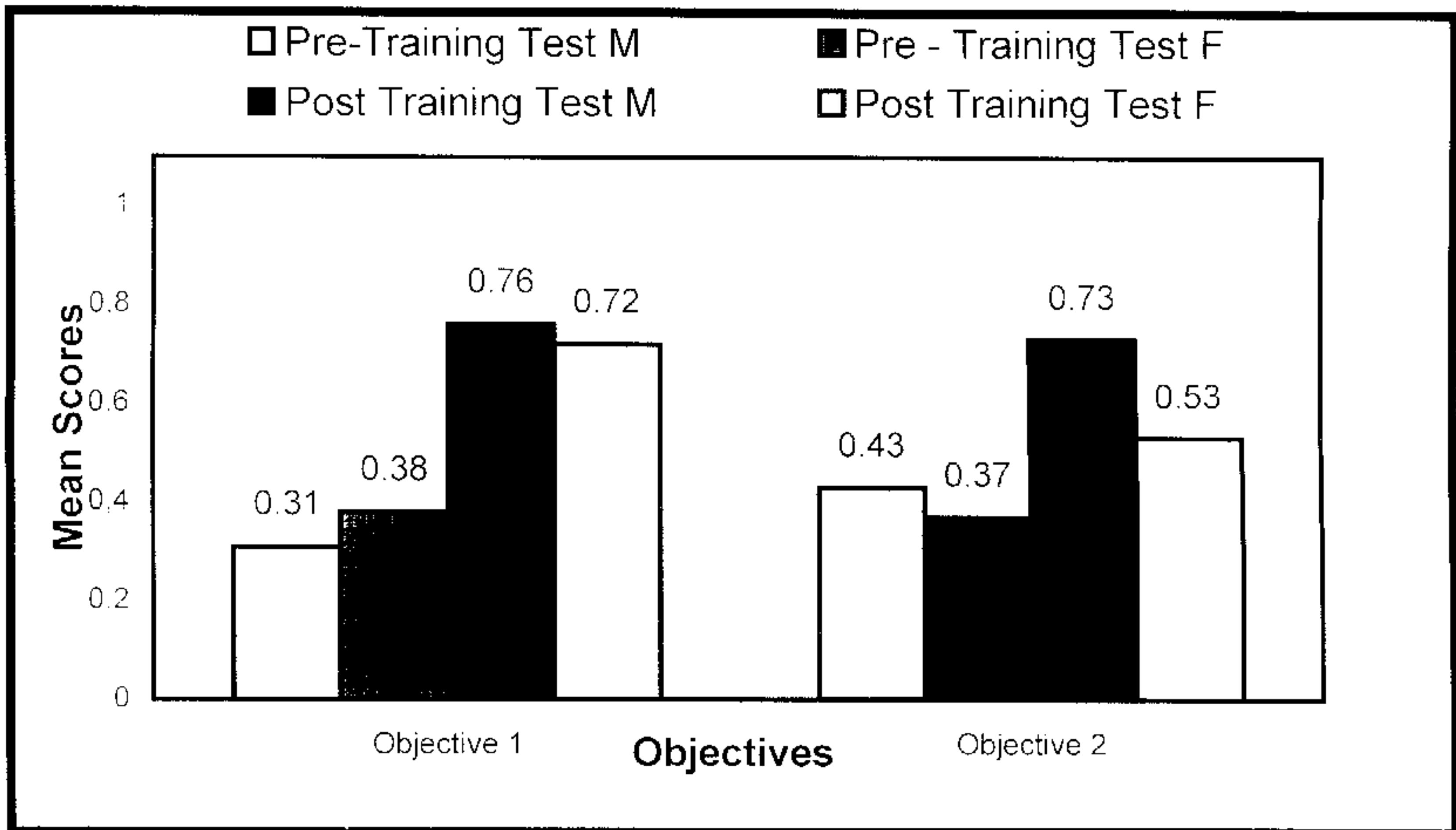
Social Studies

Class – IV

Objective wise percent scores

Objective No. Pre Training Test Post Training Test
(Base line survey)

Objective No.	Pre Training Test		Post Training Test	
	M	F	M	F
1.	.31	.38	.76	.72
2.	.43	.37	.73	.53
Mean	.37	.38	.75	.63

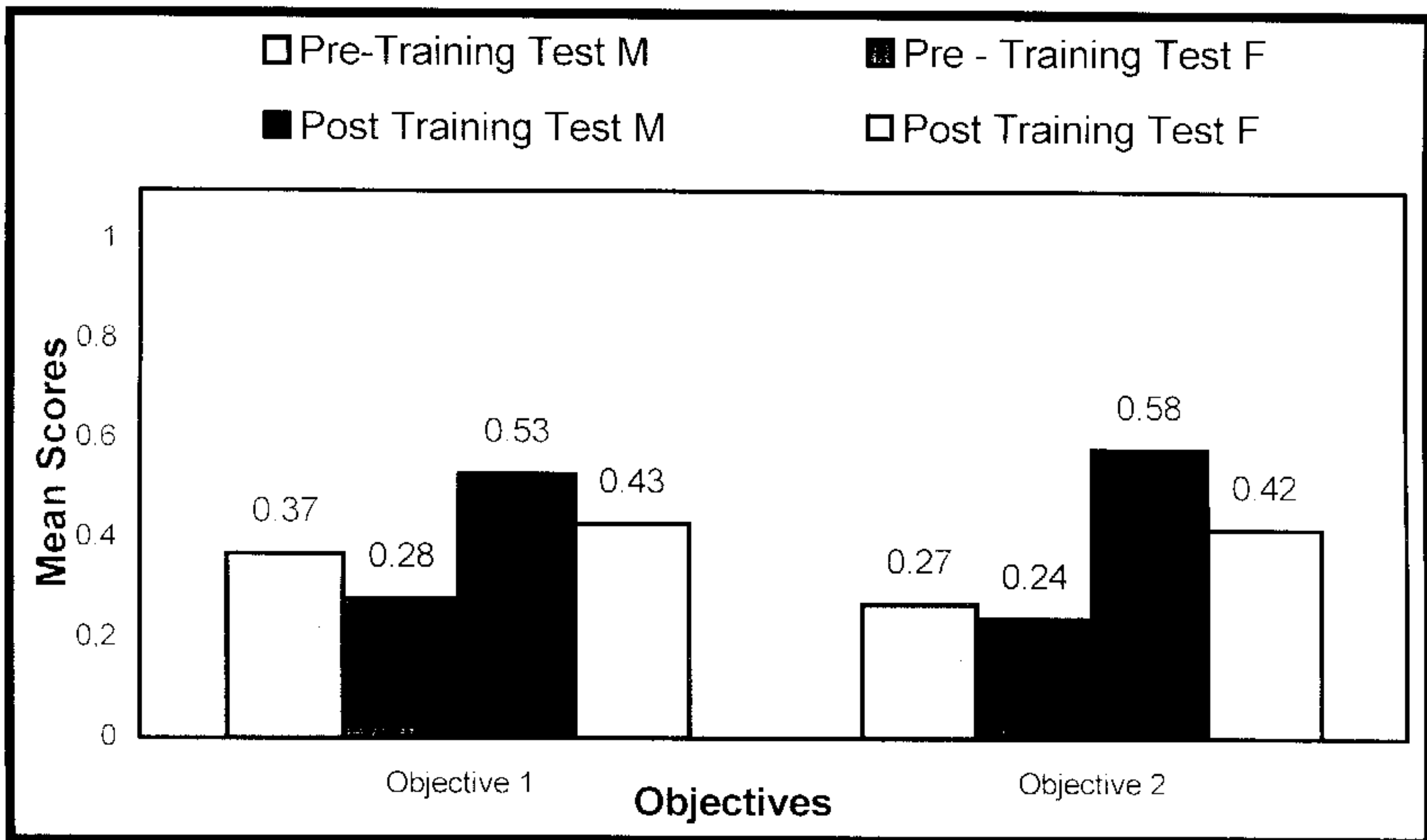


Social Studies

Class - V

Objective wise percent scores

Objective No.	Pre Training Test (Base line survey)		Post Training Test	
	M	F	M	F
1.	.37	.28	.53	.43
2.	.27	.24	.58	.42
Mean	.32	.26	.56	.43

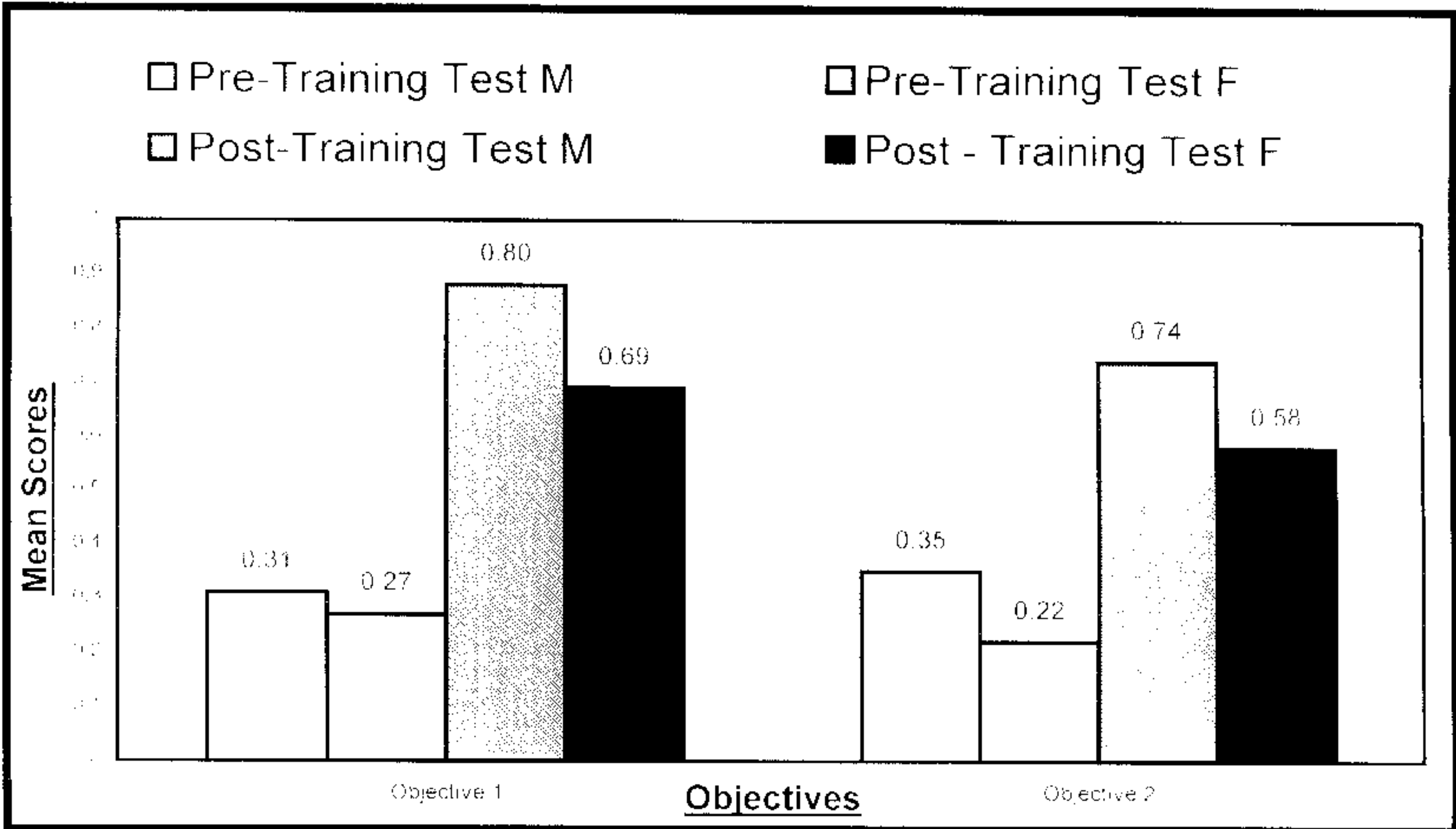


Urdu

Class – III

Objective wise percent scores

Objective No.	Pre Training Test (Base line survey)		Post Training Test	
	M	F	M	F
1.	.31	.27	.80	.69
2.	.35	.22	.74	.58
Mean	.33	.24	.77	.64

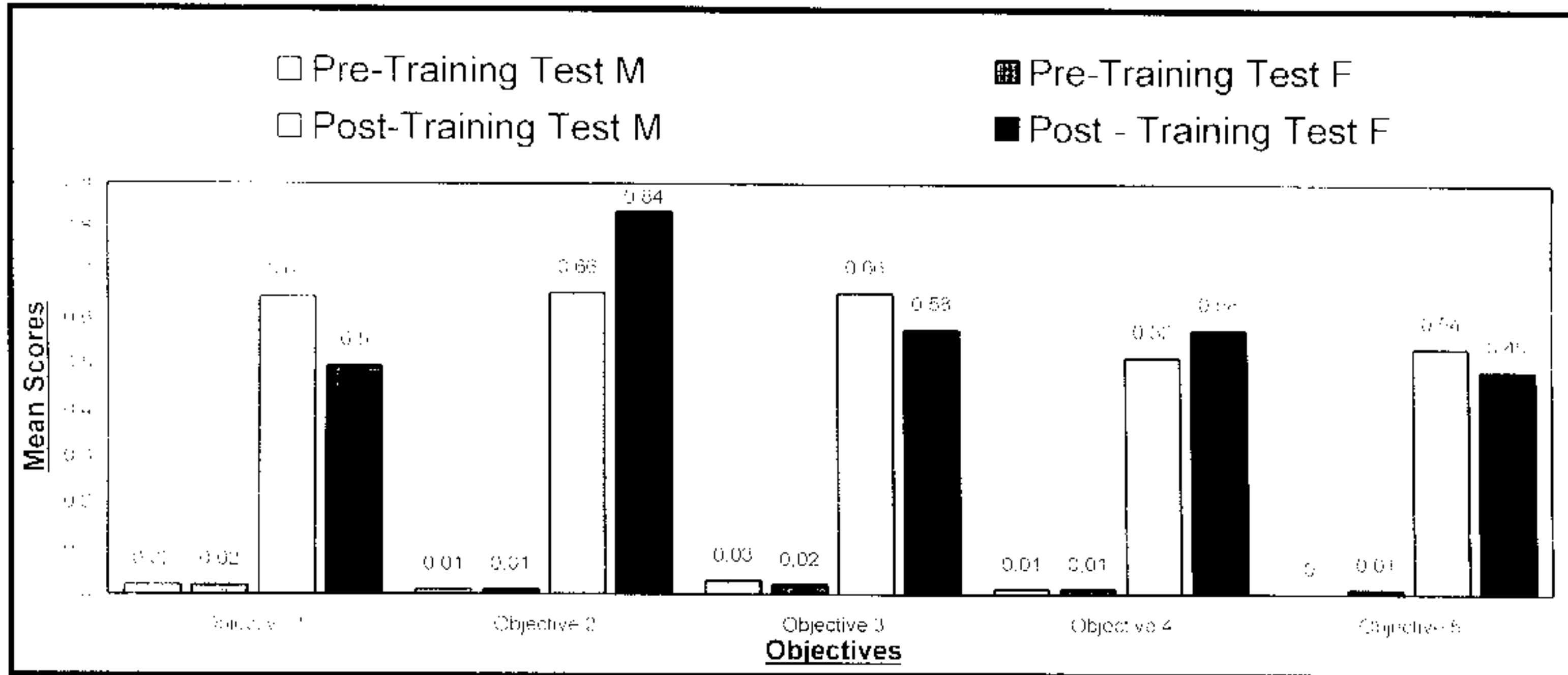


Urdu

Class - IV

Objective wise percent scores

Objective No.	Pre Training Test (Base line survey)		Post Training Test	
	M	F	M	F
1.	.02	.02	.65	.50
2.	.01	.01	.66	.84
3.	.03	.02	.66	.58
4.	.01	.01	.52	.58
5.	0	.01	.54	.49
Mean	.01	.01	.61	.61

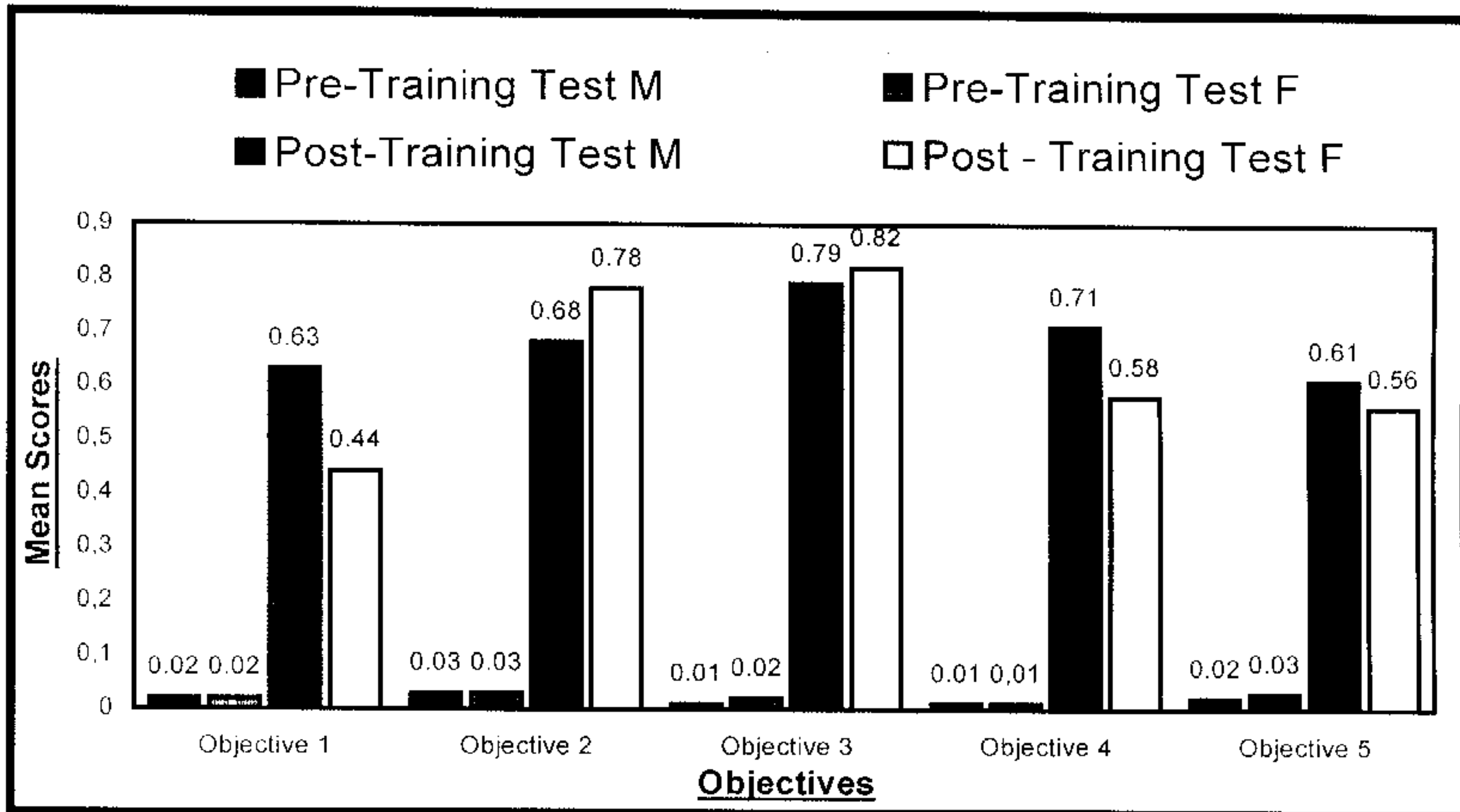


Urdu

Class - V

Objective wise percent scores

Objective No.	Pre Training Test (Base line survey)		Post Training Test	
	M	F	M	F
1.	.02	.02	.63	.44
2.	.03	.03	.68	.78
3.	.01	.02	.79	.82
4.	.01	.01	.71	.58
5.	.02	.03	.61	.56
Mean	.02	.02	.68	.64



Summary of Findings

Following inferences are drawn from the data tabulated and the graphic pictures presented in the report.

Achievement of the Children of all grades in all subjects on the post training tests was considerably higher than their achievement on pretraining tests (Tests used during baseline survey). Thus it may be concluded that remedial teaching package, remedial training of teachers and remedial teaching in schools had a positive effect on the learning achievement of children .

Recommendations of the Study

The following recommendations are made in the light of findings of the study:

1. Diagnostic Tests based upon the whole should be prepared as this study was restricted to a part of curriculum only.
2. Teacher's should be introduced to the method of Diagnostic Testing and remedial teaching.
3. A mechanism in remedial teaching may be evolved and introduced in the schools.
4. Remedial teaching material based upon diagnostic Testing should be developed.
5. Teachers should be given training in the use and maintenance of Primary Teaching Kit already provided to the schools.
6. Teachers should be imparted training in development and use of low cost /no cost teaching aids with scrap /waste materials from the environment and use of experiences of children and teachers in school teaching.